



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,382	01/25/2002	Hajime Kimura	SEL 301	3873

7590

11/04/2003

COOK, ALEX, McFARRON, MANZO,
CUMMINGS & MEHLER, LTD.
SUITE 2850
200 WEST ADAMS STREET
CHICAGO, IL 60606

EXAMINER

KRISHNAN, SUMATI

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,382

Applicant(s)

KIMURA, HAJIME

Examiner

Sumati Krishnan

Art Unit

2875

Aw

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,3,5,7,9,13,17,20-25,27,28,30,32,34,35,37,39,41,42,44,46,48,50,52,53,55 and 57 is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8,10-12,14-16,18,19,26,29,31,33,36,38,40,43,45,47,49,51,54,56 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Office respectfully disagrees with applicant on whether or not Troutman's reflector 308 is in contact with the insulating layer 306. It is clear from figure 3, that although the reflector 308 is in contact with the highly conductive surface 304, it is also **in contact** with the insulating layer 306. Therefore, claims 1,4 and 6 and the respective dependents (8,12,16,26,33,40,57,10,14,18,29,36,43,47,54,11,15,19,31,38,45,49 and 56) remain rejected as set forth in the office action of 4-11-03.

It is agreed that the added limitation of "wherein the cathode is not in contact with the at least one transistor" distinguishes applicant's claim from the prior art of Troutman. Therefore, claims 2,3,5 and 7 and the respective dependents (9,13,17,27,34,41,52,20,23,28,35,42,53,21,24,30,37,44,48,55,22,25,32,39,46,50 and 57) are allowed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Troutman (US 6157356).

Troutman discloses a light emitting device comprising a substrate (302) having an insulating surface (glass), an insulating film formed over the substrate (306), a light emitting element comprising a transparent electrode (312), an organic compound layer (310) formed on the transparent electrode and a cathode (308), formed on the organic compound layer, formed in contact with the insulating film, wherein a light reflector (308) is placed so as to cover the hole. See fig. 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,6,8,10,11,33,36,38,40,43,45,47,49,51,54 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troutman (US 6157356).

Regarding claims 4 and 6, Troutman discloses a light emitting device comprising a substrate (302) having an insulating surface (glass), an insulating film formed over the substrate (306), a light emitting element comprising a transparent electrode (312), an organic compound layer (310) formed on the transparent electrode and a cathode (308), formed on the organic compound layer, formed in contact with the insulating film, wherein a light reflector (308) is placed so as to cover the hole. See fig. 3. Troutman does not explicitly disclose a transistor formed over the substrate. However, Troutman does disclose a transistor in figures 1a, 4, 1b, 5, and 6, and col. 2 lines 1-2. Additionally, it is well known in the art to provide a transistor over

Art Unit: 2875

the substrate in order to provide a driving current. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a transistor over the substrate since it provides the controlling current. Troutman also does not explicitly disclose multiple insulating layers. However, it is well known in the art to include insulating layers to prevent unwanted electrical contact. Additionally, it is well known in the art to provide contact holes in the insulating films so that the holes have contact to the non-transparent electrode, thus powering the light emitting element. See for example, US 2002/0050795 A1. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included multiple insulating layers in order to protect the invention from unwanted electrical contact, and to have included contact holes in those insulating layers in order to connect the electrode to the wiring.

Regarding claims 8,10 and 11, Troutman discloses the reflector being a metal film, see col. 2 lines 50-55.

Regarding claims 33,36,38,40,43, and 45, Troutman does not explicitly disclose the first and second wiring lines provided on the substrate, and a hole placed in a region surrounded by the first and second wiring lines. However, it is notoriously old and well known in the art to provide first and second wiring lines, selected from the group consisting of a source line, a gate line, a power supply line, a capacitance line and a reset line on the substrate, even in order to define a pixel in a matrix circuit, and holes in the region surrounding the lines in order for the electrodes to have contact with the wirings. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included first and second

wiring lines selected from the group above, and contact holes in the surrounding region on the substrate, thereby defining a pixel.

Regarding claims 47 and 49, Troutman does not explicitly disclose the holes in the insulating layers overlapping each other. However, it would have been necessary to have overlapping holes in order to provide electrical connections to the transparent electrode, thus providing power to the light emitting element. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned the holes so that they overlap, in order to provide power to the light emitting element.

Regarding claims 51, 54, and 56, Troutman does not explicitly disclose the use of the OLED active matrix circuit in any application. However, it is notoriously well known in the art to use OLED circuits in applications such as camera's, laptops, and phones. See, for example, Imukai (US 6417521).

Allowable Subject Matter

Claims 2,3,5,7,9,13,17,20-25,27,28,30,32,34,35,37,39,41,42,44,46,48,50,52,53,55 and 57 are allowed. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither shows nor suggests the light emitting device of claims 2,3,5 or 7 wherein the cathode is not in contact with the at least one transistor.

Claims 12,14,15,16,18,19,26,29 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither shows nor suggests

a light emitting device wherein the taper angle of the reflector (or cathode) and the critical angle at the interface between the light emitting device and air satisfy the equation is as disclosed in claims 12 or 20. In addition, the prior art of record neither shows nor suggests the maximum distance from the organic compound layer to the light reflector (cathode), the maximum thickness from the organic compound layer to the light reflector (cathode), and the critical angle at the interface between the light emitting device and air satisfying the relationship set forth in equations of claim 16.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

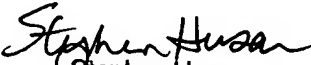
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumati Krishnan whose telephone number is 703-305-7906. The examiner can normally be reached on 8:00 am - 4:30 pm..

Art Unit: 2875

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

SK


Stephen Husar
Primary Examiner